

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A two-dimensional photonic crystal multiplexer/demultiplexer, ~~which is characterized by:~~ comprising:

- a) a slab-shaped body;
- b) a plurality of areas arranged in a lattice pattern with a predetermined cycle within the body, where a refractive index of the ~~aforementioned~~ areas differs from that of the body;
- c) a first optical input/output section consisting of a waveguide formed in the body, where the waveguide is made of a linear defect of ~~the~~ modified refractive index areas;
- d) a second optical input/output section formed in the body; and
- e) ~~two or more~~ two point-like defect resonators composed of point-like defects having substantially the same resonance wavelength and arranged in series between the first and second optical input/output sections, each point-like defect consisting of a point-like region devoid of the modified refractive index ~~areas~~ areas,

wherein a value of a coupling ratio defined as $\mu^2/[(\omega_0/2) \times (1/Q_{in} + 1/Q_v)]^2$ is 0.2~10, where ω_0 is a resonance frequency of the point-like defect resonators, Q_{in} is a Q-value between one of the first and second optical input/output sections and the point-like defect resonator closest to the section, Q_v is a Q-value between each of the point-like defect resonators and an outside of the crystal, and μ is a mutual coupling coefficient between the point-like defect resonators.

2. (Currently Amended) The two-dimensional photonic crystal multiplexer/demultiplexer according to claim 1, ~~which is characterized in that~~ wherein the second optical input/output section is a point-like defect whose Q-value with respect to an outside of the crystal is smaller than that of the point-like defect resonators.

3. (Currently Amended) The two-dimensional photonic crystal multiplexer/demultiplexer according to claim 2, ~~which is characterized in that~~ wherein at least one of the point-like resonators is a donor type defect formed by eliminating one or more of the modified refractive index areas.

4. (Currently Amended) The two-dimensional photonic crystal multiplexer/demultiplexer according to claim 1, ~~which is characterized in that~~ wherein the second optical input/output section is a waveguide consisting of a linear defect of the modified refractive index areas.

5. (Currently Amended) The two-dimensional photonic crystal multiplexer/demultiplexer according to claim 4, ~~which is characterized in that~~ wherein the second optical input/output section is provided with a second reflecting section for reflecting light whose wavelength equals to the ~~aforementioned~~-resonance wavelength.

6. (Currently Amended) The two-dimensional photonic crystal multiplexer/demultiplexer according to claim 1, ~~which is characterized in that~~ wherein the first optical input/output section is provided with a first reflecting section for reflecting light whose wavelength equals to the ~~aforementioned~~-resonance wavelength.

7. (Currently Amended) The two-dimensional photonic crystal multiplexer/demultiplexer according to claim 5, ~~which is characterized in that~~ wherein:

the body is composed of plural forbidden band zones, with modified refractive index areas being formed within each forbidden band zones with a different arrangement cycle;

the first optical input/output section or the second optical input/output section is formed so that it passes through all the forbidden band zones; and

the resonance wavelength of the point-like defect resonators falls within a transmission wavelength band of the waveguide of the first or second optical input/output section in a forbidden band zone including the point-like defect resonators, whereas it is out of the transmission wavelength band of the waveguide in any other forbidden band zone.

8. (Currently Amended) The two-dimensional photonic crystal multiplexer/demultiplexer according to claim 1, ~~which is characterized in that~~ wherein there are exactly two point-like defect resonators; and

~~the two~~ the point-like defect resonators and the ~~two~~ optical input/output sections are symmetrically arranged with respect to a point.

9. (Currently Amended) The two-dimensional photonic crystal multiplexer/demultiplexer according to claim 1, ~~which is characterized in that~~ wherein one or more of the modified refractive index areas located in a proximity of the point-like defect resonators are shifted from positions determined by the ~~aforementioned~~-arrangement cycle.

10. (Canceled)